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MINERALOGICAL ABSTRACTS

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Arising from a decision taken at the meeting of the INTERNATIONAL MINERALOGICAL ASSOCIATION in Copenhagen in 1961 the Mineralogical Societies of America and Great Britain agreed to issue a joint statement to National Societies adhering to the Association inviting each Society to organize contributions of abstracts of papers published in the journals of its country on subjects relevant to *Mineralogical Abstracts*. This invitation was issued and has brought a gratifying response. Members of Societies which have agreed to co-operate in this way are entitled to receive *Mineralogical Abstracts* for their personal use at a reduced rate of subscription on application, *which must be made through their National Society*. The countries now co-operating include: AUSTRALIA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CZECHOSLOVAKIA, DENMARK, EGYPT, FINLAND, GERMANY, INDIA, ISRAEL, ITALY, JAPAN, NETHERLANDS, NEW ZEALAND, NORWAY, PAKISTAN, PORTUGAL, SPAIN, SWEDEN, SWITZERLAND. Individual mineralogists and petrologists in countries not represented in the Association, or not yet co-operating through their National Society, provide abstracts from the literature of ARGENTINA, BRAZIL, KENYA, MEXICO, and SOUTH AFRICA.

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ERRATA

Mineralogical Abstracts, vol. 26

- 75-2522 *for honquilitite read hongquiiite*
75-3475 *for (vol.) 13 read 18*

Mineralogical Abstracts, vol. 27

- 76-14 *for tract read track*
76-154 *for Elverkphi read Elverhphi*
76-278 *for Witwatersand read Witwatersrand*
76-281 *for Sh read Sb*
76-444 *for form read from*
76-453 *for Aq read Ag*
76-626 *for concentratios read concentrations*
76-695 *for the Mercury read Mercury*
76-879 *for Batke read Ratke*
76-884 *(last line) for a sodium read sodium*
76-896 *for Original read Origin*
76-992 *for race elements read trace elements*
76-1823 *for monozonite read monzonite*
76-2168 *for For read Far*
76-2382 *for $\text{MnAl}_2(\text{SO}_4)_4 \cdot 2\text{H}_2\text{O}$ read $\text{MnAl}_2(\text{SO}_4)_4 \cdot 22\text{H}_2\text{O}$*
76-2641 *for crsytallochemical read crystallochemical*
76-2743 *for shorl read schorl*
76-2745 *for $\text{Ca}_{0.01}^{\text{xli}}$ read $\text{Ca}_{0.01}^{\text{xii}}$*
76-2869 *(unnamed phase) for Sn 0.5 read Sn 5.0*
76-2878[10] *for Kasai-Angloa read Kasai-Angola*
76-3007 *for Australian read Austrian*
76-3146 *for vyssotskite read vysotskite*
76-3217 *for course read coarse*
76-3221 *for Koitikas read Kostikas*

ABBREVIATIONS AND SYMBOLS

M.M. . . . Mineralogical Magazine

M.A. . . . Mineralogical Abstracts

A.M. . . . American Mineralogist

CHEMICAL & PHYSICAL CHEMICAL

atomic absorption spectroscopy	. . . . .	AAS
cation-exchange capacity	. . . . .	c.e.c.
chemical analysis	. . . . .	chem. anal.
concentrated	. . . . .	conc.
differential thermal analysis	. . . . .	DTA
dilute	. . . . .	dil.
disintegrations per minute	. . . . .	d.p.m.
equivalent U_3O_8	. . . . .	eU_3O_8
ethylenediaminetetra-acetic acid	. . . . .	EDTA
heat of formation (absolute temperature subscript)	. . . . .	ΔH_t
hydrogen ion conc. acidity	. . . . .	pH
insoluble residue	. . . . .	insol. res.
isotopes, e.g.	. . . . .	$^{40}Ar, ^{40}K$
loss on ignition	. . . . .	ign. loss
milliequivalent	. . . . .	me.
microgramme	. . . . .	μg
million-years	. . . . .	m.y.
neutron activation analysis	. . . . .	NAA
not determined	. . . . .	n.d.
not found	. . . . .	nt. fd.
not present	. . . . .	nil
parts per million	. . . . .	p.p.m.
rare earths	. . . . .	TR or RE
standard mean ocean water	. . . . .	SMOW
strength of solution, normal	. . . . .	N
— — — molar	. . . . .	M
substances in ionic state		
anions, e.g.	. . . . .	Cl^-, SO_4^{2-}
cations, e.g.	. . . . .	K^+, Fe^{3+}
thermogravimetric analysis	. . . . .	TGA
trace	. . . . .	tr.
X-ray fluorescence analysis	. . . . .	XRF

CRYSTALLOGRAPHIC & STRUCTURAL

Angstrom unit (10^{-8} cm)	. . . . .	\text{\AA}
crystal axes	. . . . .	a, b, c
— face indices	. . . . .	(hkl)
— form indices	. . . . .	{hkl}
— zone indices	. . . . .	[hkl]
indices of X-ray diffractions	. . . . .	hkl
intensity	. . . . .	I
— relative	. . . . .	I/I_0
interplanar spacing	. . . . .	d
mica structural polymorphs	. . . . .	$1M_1, 2M_1$
Siegbahn units	. . . . .	kX
space group. These words are written in full		
unit cell, formula units	. . . . .	Z
— — repeat distances	. . . . .	a, b, c
— — reciprocal lattice lengths of edges	. . . . .	a^*, b^*, c^*
— — interaxial angles direct lattice	. . . . .	α, β, γ
— — — reciprocal lattice	. . . . .	$\alpha^*, \beta^*, \gamma^*$

OPTICAL

dispersion, e.g.	. . . . .	$r > v$
electron microscopy	. . . . .	EM
extinction angle, e.g.	. . . . .	$\gamma : c$
infrared	. . . . .	IR
optic axial angle	. . . . .	2V
— — plane	. . . . .	O.A.P.
refractive index, in text	. . . . .	refr. ind.
— — of isotropic mineral	. . . . .	n
refractive indices		
of uniaxial mineral	. . . . .	ω, ϵ
of biaxial mineral	. . . . .	α, β, γ
scanning electron microscopy	. . . . .	SEM
sign of biaxiality		
negative	. . . . .	$2V_\alpha$ or —
positive	. . . . .	$2V_\gamma$ or +
ultraviolet	. . . . .	UV

PHYSICAL

calculated	. . . . .	calc.
calorie	. . . . .	cal.
calorie, large	. . . . .	kcal.
cycles per second	. . . . .	c/s
degree centigrade	. . . . .	$^{\circ}C$
density	. . . . .	D (quote units)
—, relative, e.g.	. . . . .	D_4^{20}
electron paramagnetic resonance	. . . . .	e.p.r.
gramme	. . . . .	g
hardness	. . . . .	H.
melting-point	. . . . .	m.p.
micron (10^{-4} cm)	. . . . .	μ
millimicron (10^{-7} cm)	. . . . .	m μ
nanometre (10^{-7} cm)	. . . . .	nm
natural remanent magnetization	. . . . .	n.r.m.
pounds per square inch	. . . . .	lb/in. ²
pressure	. . . . .	P
soluble	. . . . .	sol.
specific gravity, terms of reference not known	. . . . .	sp. gr.
temperature	. . . . .	T
Vickers hardness number	. . . . .	VHN
wavelength	. . . . .	λ

SYMBOLS

approximately equal to	. . . . .	\sim
equal to	. . . . .	=
equal to or greater than	. . . . .	\geq
equal to or less than	. . . . .	\leq
greater than	. . . . .	>
less than	. . . . .	<
not equal to	. . . . .	\neq
parallel to	. . . . .	\parallel
per cent.	. . . . .	%
per mille	. . . . .	\text{‰}
perpendicular to	. . . . .	\perp
proportional to	. . . . .	\propto

ABBREVIATIONS USED IN REFERENCE TO PUBLICATIONS

Abhdl.	Abhandlungen	Gesell.	Gesellschaft	Prosp.	Prospecting
Abstr.	Abstract, -s	Govt.	Government	Publ.	Publication(s), published
Abt.	Abteilung				
Acad., Accad., Akad.	Academy, & <i>equiv.</i>	Hdbh.	Handbuch	Razv.	Razvedka = survey
Adv.	Advancement			Rec.	Records
Agric.	Agricultur-al, -e	Illustr.	Illustrat-ed, -ions	Ref.	References, referata
Anal.	Anal-y-st, -tical, &c.	Imp.	Imperial	Rend.	Rendiconti
Ann., An.	Annals, Annales, & <i>equiv.</i>	Industr.	Industr-ial, -y	Repb.	Republic
Anorg.	Anorganisch	Inform.	Information	Rept.	Report(s)
Appl.	Applied	Inst.	Institute, institution, & <i>equiv.</i>	Res.	Research
Arch.	Archives			Reserv.	Reserves
Asoc., Assoc.	Association, & <i>equiv.</i>	Instr.	Instruments	Resrcs.	Resources
Astron.	Astronomical	Int.	Interior	Rdsch.	Rundschaу
		Intern.	International	Rev.	Review
		Invest.	Investigations	Roy.	Royal, & <i>equiv.</i>
Bd.	Band	Issl.	Issledovaniye = investigation		
Beitr.	Beiträge	Ist.	Istituto	Sborn.	Sbornik = magazine
Ber.	Bericht-e	Izd.	Izdanie = publication	Sch.	School, Schule
Berg.	Bergwesen	Izvest.	Izvestiya	Sci.	Science
Bol., Boll., Bull.	Bulletin, & <i>equiv.</i>			Sect.	Section
Bur.	Bureau	Jahrb.	Jahrbuch	Sedim.	Sedimentary
		Jahresb.	Jahresbericht	Ser., sér.	Series, & <i>equiv.</i>
Ceram.	Ceramic, & <i>equiv.</i>	Jorn., Journ.	Journal, & <i>equiv.</i>	Serv.	Service
Chem., Chim.	Chem-i-cal, -stry, & <i>equiv.</i>			Sitzb.	Sitzungsbericht
Cien.	Ciencia, -s	Khim.	Khim-ie, &c.	Skr.	Skrift, -en -er
Circ.	Circular	Kl.	Klasse	Soc.	Society, & <i>equiv.</i>
Cl.	Classe	Krist.	Kristallographie, &c.	Sondbd.	Sonderband
Com.	Comisión			Spec., spez.	Special, & <i>equiv.</i>
Comm.	Commission	Lab.	Laboratory	Stand.	Standard(s)
Conf.	Conference, & <i>equiv.</i>	Lit.	Literary	Stn.	Station
Congr.	Congress, & <i>equiv.</i>			Suppl.	Supplement
Contr.	Contributions	Mag.	Magazine	Surv.	Survey, -or
C.R.	Comptes Rendus	Mat., Math.	Mathematical, & <i>equiv.</i>	Symp.	Symposium
Crist., Cryst.	Crystallograph-ical, -y & <i>equiv.</i>	Medd.	Meddelelser		
		Mem., Mém.	Memoir, -s, & <i>equiv.</i>	Tab(s).	Table(s), tabellen
Dept.	Department, & <i>equiv.</i>	Metall.	Metallurg-ical, -y	Techn.	Technologi-cal, -y
Diss.	Dissertation	Min.	Mineralog-ical, -ist, -y	Tids(s)kr.	Tid(s)krift, -en
Divn.	Division	Misc.	Miscellaneous	Tijdschr.	Tijdschrift
Dokl.	Doklady = C.R.	Mitt.	Mitteilungen	Trab.	Trabajos
		Mh.	Monatsheft	Trans.	Transactions
Econ.	Economic	Mus., Muz.	Museum, & <i>equiv.</i>	Transl.	Translat-ed, -ion
Educ.	Education				
Eng.	Engineering	Nac., Nat., Naz.	National, & <i>equiv.</i>	U.A.R.	United Arab Republic
Exped.	Expedition	Natur.	Natur-al, -alist, & <i>equiv.</i>	Uch.	Uchennye = learned
Exper.	Experimental	Natur-w, -v.	Naturwissenschaft, & <i>equiv.</i>	Ucheb.	Uchebnyi = teaching
Expl.	Exploration			Unders.	Undersögelse, undersökning
				Univ.	University, & <i>equiv.</i>
Fac.	Faculty	Obraz.	Obrazovanie = education		
Fig(s).	Figure(s)	Obshch.	Obshchestva = society	Verhdl.	Verhandlungen
Fis.	Fisicale, fisico			Vidensk.	Videnskaps
Fören.	Föreningen	Petr.	Petrolog-ical, -y, & <i>equiv.</i>	Volc., Vulk.	Volcanologi-cal, -y &c.
Förh.	Förhandlingar	Petrol.	Petroleum	Vses.	Vsesoyuznyi = All-Union
Fortsch.	Fortschritt, -e	Phil.	Philosophical, &c.	Vyshsh.	Vyshshikh = higher
		Photos.	Photographs		
Gen.	General	Photomicros.	Photomicrographs	Wiss.	Wissenschaft
Geo-chem., chim.	Geochem-i-cal -stry, &c.	Phys.	Physic-al, -s, & <i>equiv.</i>		
Geogr.	Geograph-y, ical, &c.	Pl(s).	Plate(s)	Zap.	Zapiski = memoirs
Geol., géol.	Geology, -ical, -ist, & <i>equiv.</i>	Polytech.	Polytechnic, & <i>equiv.</i>	Zav.	Zavodskaya = factory
Geophys., geofis.	Geophysic-al, -s, &c.	Pract., Prakt.	Practical, & <i>equiv.</i>	Zaved.	Zavedenii = institution
		Proc.	Proceedings	Zeits.	Zeitschrift
		Prof.	Professional	Zhurn.	Zhurnal = journal
				Ztg.	Zeitung

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